

8 and no resources are allocated to ePDCCH for UE **8**); (ii) a configuration in which the sum of A to F is 14 and the sum of U to Z is 8 (i.e. about twice as many resources are allocated to PDCCH for UE **8** as to ePDCCH for UE **8**); (iii) a configuration in which the sum of A to F is 8 and the sum of U to Z is 14 (i.e. about twice as many resources are allocated to ePDCCH for UE **8** as to PDCCH for UE **8**); and (iv) a configuration in which A to F are all set to zero and U to Z are each set to the maximum number of candidates (i.e. a maximum amount of resources is allocated to ePDCCH for UE **8** and no resources are allocated to PDCCH for UE **8**).

[0089] The above-described technique provides a way to tradeoff gain and load between PDCCH and ePDCCH. Allocating more resources to PDCCH and less to ePDCCH can help to reduce the conflicting ratio. On the other hand, allocating more resources to ePDCCH and less to PDCCH can increase the FDPS gain, user selective gain etc. eNB **2** decides on an optimum allocation of resources between PDCCH and ePDCCH for UE **8** based on a number of factors such as load and the state of the channel between eNB **2** and UE **8**.

[0090] According to a second embodiment: the amount of processing power required for blind decoding at UE **8** is reduced by eNB **2** placing further restrictions on the DCI formats that it uses for DCI messages to UE **8** at one or more aggregation levels via PDCCH and/or ePDCCH; and communicating the restrictions to UE **8** by higher layer signalling such as RRC signalling or MAC-CE signalling. For example, by restricting DCI messages including PDSCH scheduling information for UE **8** at one or more aggregation levels to only one DCI Format instead of two DCI formats, and communicating this restriction from eNB **2** to UE **8**, the processing power required at UE **8** for blind decoding can be reduced. For example, where DCI Format 2 is used to provide control information required for a scheduled transmission according to a preferred transmission mode, and DCI Format 1 is used to provide control information required for the same scheduled transmission according to a fall-back transmission mode (which is more reliable than said preferred mode in some situations such as when the UE is relatively distant from eNB **2**); then eNB **2** can decide to reduce the number of aggregation levels at which it sends DCI messages according to DCI Format 2 if it determines that the probability of the preferred transmission mode resulting in a successful transmission falls below a threshold value.

[0091] With reference to FIG. 7, eNB **2** decides how much total search space to assign to DCI Format 1 relative to DCI Format 2 (STEP **702**), and selects a combination of predefined search spaces for DCI Formats 1 and 2 (STEP **704**). eNB **2** then transmits to UE **8** a message identifying the selected combination of search spaces (STEP **706**). UE **8** receives this transmitted message (STEP **708**), and restricts the searching it performs as part of blind decoding to the selected combination of search spaces identified in the message received from eNB **2** (STEP **710**).

[0092] According to a third embodiment, the technique according to the second embodiment is used in combination with the technique according to the first embodiment.

[0093] The above-described operations may require data processing in the various entities. The data processing may be provided by means of one or more data processors. Similarly various entities described in the above embodiments may be implemented within a single or a plurality of data processing entities and/or data processors. Appropriately adapted computer program code product may be used for implementing

the embodiments, when loaded to a computer. The program code product for providing the operation may be stored on and provided by means of a carrier medium such as a carrier disc, card or tape. A possibility is to download the program code product via a data network. Implementation may be provided with appropriate software in a server.

[0094] For example the embodiments of the invention may be implemented as a chip set, in other words a series of integrated circuits communicating among each other. The chipset may comprise microprocessors arranged to run code, application specific integrated circuits (ASICs), or programmable digital signal processors for performing the operations described above.

[0095] Embodiments of the invention may be practiced in various components such as integrated circuit modules. The design of integrated circuits is by and large a highly automated process. Complex and powerful software tools are available for converting a logic level design into a semiconductor circuit design ready to be etched and formed on a semiconductor substrate.

[0096] Programs, such as those provided by Synopsys, Inc. of Mountain View, Calif. and Cadence Design, of San Jose, Calif. automatically route conductors and locate components on a semiconductor chip using well established rules of design as well as libraries of pre stored design modules. Once the design for a semiconductor circuit has been completed, the resultant design, in a standardized electronic format (e.g., Opus, GDSII, or the like) may be transmitted to a semiconductor fabrication facility or “fab” for fabrication.

[0097] In addition to the modifications explicitly mentioned above, it will be evident to a person skilled in the art that various other modifications of the described embodiment may be made within the scope of the invention.

1. A method, comprising:

selecting, in a system in which a communication device searches for transmissions of downlink control information for said communication device, a combination of search spaces for the transmissions by a plurality of transmission techniques of downlink control information for the communication device; and

transmitting an indication of a result of a selected combination to said communication device.

2. A method according to claim 1, comprising deciding how much search space to assign to transmissions of downlink control information for said communication device by one or more of said plurality of transmission techniques relative to transmissions of downlink control information for said communication device by one or more others of said plurality of transmission techniques.

3. A method according to claim 1, wherein said selecting comprises selecting a predefined combination from a plurality of predefined combinations.

4. (canceled)

5. A method according to claim 1, wherein a plurality of aggregation levels are used for the transmission of downlink control information, and a respective search space is predefined for each aggregation level for each transmission technique; and wherein the method comprises: selecting a respective set of one or more aggregation levels for each of said plurality of transmission techniques; and transmitting an indication of the selected respective set of aggregation levels to said communication device.

6. A method according to claim 1, wherein said selecting is performed at least partly on the basis of one or more of: (a) a